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ALBERTA POPULATION GROWTH

FOURTH QUARTER, 1987

Alberta

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Alberta Bureau of Statistics
Alberta Treasury
7th Floor
Sir Frederick W. Haultain Building
9811 - 109 Street
EDMONTON, Alberta, Canada
T5K 0C8
Telephone: (403) 427-3058
Telex: 037-43237

March, 1988



PREFACE

This publication presents up-to-date information on quarterly population estimates and population growth components (births, deaths and migration) for the province of Alberta. These statistics are derived using administrative data files obtained from several government agencies.

Data are also computer-accessible via ASIST (Alberta Statistical Information System) matrices #6128, 6130, 6140 and 6141. Enquiries concerning the publication or requests for additional copies or previous quarterly reports should be directed to:

Data & Methodological Services
Alberta Bureau of Statistics
7th Floor
Sir Frederick W. Haultain Building
9811 - 109 Street
EDMONTON, Alberta, Canada
T5K 0C8
Telephone: (403) 427-3058
Telex: 037-43237



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INTRODUCTION

This quarterly publication presents the most recent population estimates and growth components (births, deaths and migration) for Alberta for the fourth quarter of 1987. Also incorporated are the final 1981-86 intercensal population estimates and growth components by quarter and by census year for the 1981-87 period. In addition, statistics on interprovincial migration exchange between Alberta and other provinces are provided.

Detailed population statistics are presented in Tables 1-5 following an analysis of recent population trends. Three charts are also included to illustrate trends in: (1) population growth with major components, (2) gross flow of interprovincial migration, and (3) population exchange between Alberta and other provinces. A brief description of the methodology and information sources employed in deriving the estimates is provided in the appendix.

REVIEW OF THE DATA

Alberta's population recorded moderate growth in the fourth quarter, after a marginal increase in the previous quarter. A drop in the net outflow to other provinces was the major contributor to the increased growth. For 1987, the annual population growth was almost identical to that of 1986. As of January 1, 1988 Alberta's population reached 2,385,300.

More specifically:

Fourth Quarter Growth

- Population grew by 4,030, mainly due to a drop of almost 3,000 (from 8520 in the third quarter to 5,550 in the fourth) in net out-migration to other provinces.

- The interprovincial flows during the quarter were 20,010 into and 25,560 out of Alberta. British Columbia continued to be the major source and destination of migrants, contributing 32% of in-migrants and receiving 42% of out-migrants.
- The population loss through interprovincial migration was more than offset by a natural increase of 7,550 and net international migration of 2,030.
- Compared to the third quarter, natural increase in the last quarter of a year is typically about 1100 lower. However in 1987, natural increase rose 200 over the third and the fourth quarter.

Annual Growth

- Alberta's population grew by 13,100 (0.6%), almost identical to the 1986 increase.
- Growth occurred in all four quarters; in 1986, two quarters recorded losses.
- Net interprovincial out-migration of 23,400, was over 3,200 higher than 1986.
- Alberta gained about 4,100 people in net exchange with Saskatchewan, Manitoba and Prince Edward Island, but lost almost 27,500 to the other provinces and territories. Of the latter, close to 26,000 was accounted for by British Columbia and Ontario.
- Net international migration at 6,700 was more than double that of 1986 and at the highest level since 1982. This large net inflow resulted from the highest level immigration and the lowest level of emigration in the past five years.
- Natural increase of 29,800 was about 200 less than in 1986.

FIGURE 1

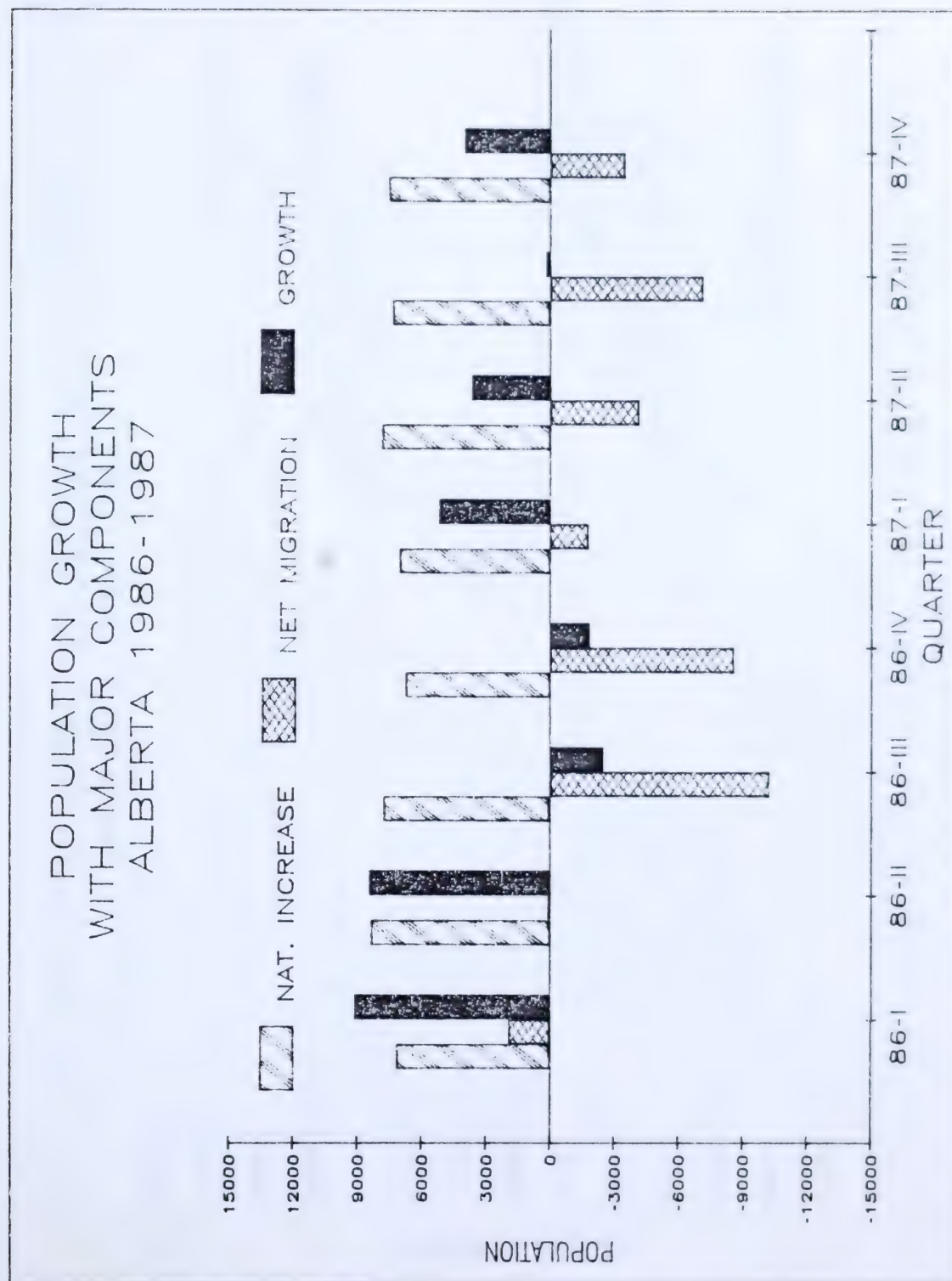


FIGURE 2

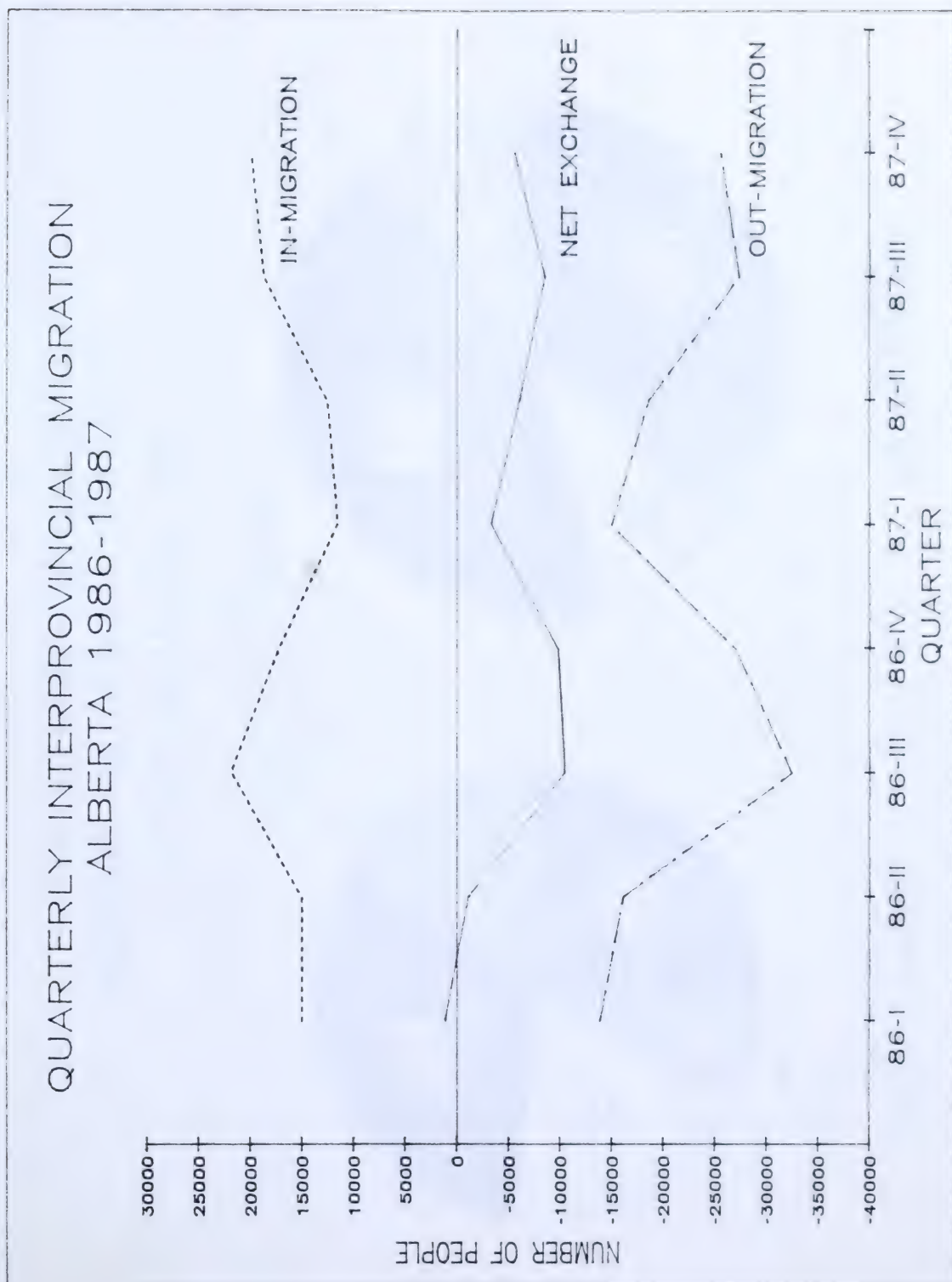
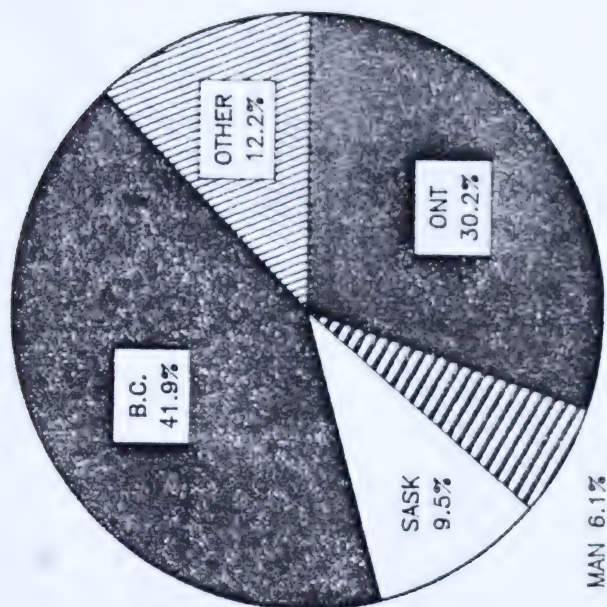
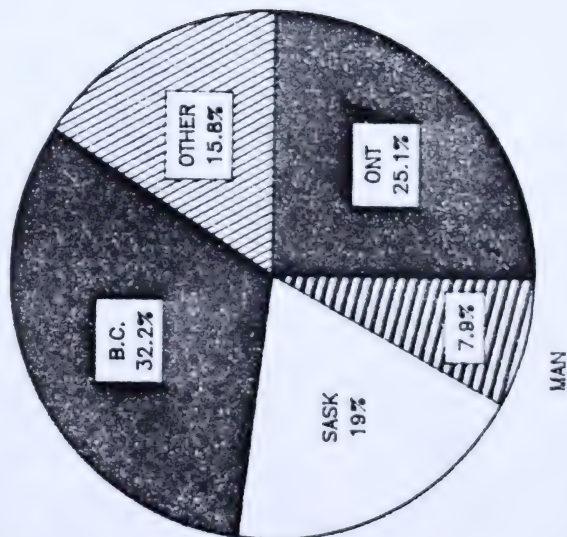


FIGURE 3

POPULATION EXCHANGE ALBERTA AND OTHER PROVINCES FOURTH QUARTER 1987



OUT-MIGRATION
(25,560 PERSONS)



IN-MIGRATION
(20,010 PERSONS)

TABLES

TABLE 1
FINAL INTERCENSAL ESTIMATES
POPULATION GROWTH BY MAJOR COMPONENT
ALBERTA, 1981 to 1985

Quarter	Natural Increase	Net Migration	Growth	Population
<u>1981</u>				
I	7,100	17,600	24,700	2,226,900
II ^r	7,800	11,400	19,200	2,246,100
III ^r	8,000	17,100	25,100	2,271,200
IV ^r	6,900	10,700	17,800	2,288,900
TOTAL	29,800	56,800	86,800	2,288,900
<u>1982^r</u>				
I	7,700	6,100	13,900	2,302,800
II	8,400	6,900	15,200	2,318,000
III	8,700	-1,100	7,500	2,325,500
IV	7,400	-1,300	6,200	2,331,700
TOTAL	32,200	10,600	42,800	2,331,700
<u>1983^r</u>				
I	8,000	-3,200	4,800	2,336,500
II	8,800	-6,300	2,500	2,339,000
III	8,700	-10,600	-1,800	2,337,200
IV	7,600	-6,800	800	2,338,000
TOTAL	33,100	-26,900	6,300	2,338,000
<u>1984^r</u>				
I	7,700	-6,900	800	2,338,800
II	8,200	-9,700	-1,500	2,337,200
III	8,200	-12,200	-4,000	2,333,300
IV	7,200	-1,300	5,900	2,339,200
TOTAL	31,300	-30,100	1,200	2,339,200
<u>1985^r</u>				
I	7,400	-2,200	5,200	2,344,400
II	8,100	-4,200	3,800	2,348,200
III	8,200	-7,000	1,200	2,349,500
IV	7,000	2,600	9,600	2,359,100
TOTAL	30,700	-10,800	19,800	2,359,100

See notes at end of table.

TABLE 1 (concluded)
POPULATION GROWTH BY MAJOR COMPONENT
ALBERTA, 1986 to 1987

Quarter	Natural Increase	Net Migration	Growth	Population
<u>1986</u>				
I ^r	7,170	1,950	9,120	2,368,200
II ^r	8,360	80	8,440	2,376,600
III	7,760	-10,270	-2,510	2,374,100
IV	6,740	-8,610	-1,870	2,372,200
TOTAL	30,030	-16,850	13,180	2,372,200
<u>1987</u>				
I	7,020	-1,820	5,200	2,377,400
II	7,860	-4,180	3,680	2,381,100
III ^r	7,360	-7,170	190	2,381,300
IV ^p	7,550	-3,520	4,030	2,385,300
TOTAL	29,790	-16,690	13,100	2,385,300

Notes: Reference date for population is the first day of the subsequent quarter.

Total population is rounded to the nearest 100.

Data may not add to totals due to rounding.

r: revised

p: preliminary

TABLE 2
FINAL INTERCENSAL ESTIMATES
MIGRATION BY COMPONENT
ALBERTA, 1981 to 1985

Quarter	International			Interprovincial		
	Im- migration	Em- igration	Net	In Migration	Out Migration	Net
<u>1981</u>						
I	4,000	500	3,500	43,400	29,300	14,100
II ^r	5,100	1,300	3,800	25,500	17,900	7,600
III ^r	5,600	2,600	3,000	35,800	21,700	14,100
IV ^r	5,200	1,500	3,700	21,000	14,000	7,000
TOTAL	19,900	5,900	14,000	125,700	82,900	42,800
<u>1982^r</u>						
I	4,500	1,700	2,800	16,500	13,200	3,300
II	5,300	1,600	3,700	19,900	16,700	3,200
III	4,500	2,800	1,700	22,500	25,300	-2,800
IV	3,600	1,800	1,800	12,100	15,200	-3,100
TOTAL	17,900	7,900	10,000	71,000	70,400	600
<u>1983^r</u>						
I	2,600	1,500	1,100	9,900	14,200	-4,300
II	2,900	1,800	1,100	11,000	18,400	-7,400
III	2,700	2,700	0	15,300	25,900	-10,600
IV	2,500	1,900	600	8,400	15,800	-7,400
TOTAL	10,700	7,900	2,800	44,600	74,300	-29,700
<u>1984^r</u>						
I	2,400	1,500	900	7,000	14,800	-7,800
II	3,100	2,000	1,100	7,800	18,600	-10,800
III	3,100	1,100	2,000	20,700	34,900	-14,200
IV	2,200	1,100	1,100	18,800	21,200	-2,400
TOTAL	10,800	5,700	5,100	54,300	89,500	-35,200
<u>1985^r</u>						
I	2,000	1,400	600	12,800	15,600	-2,800
II	2,000	1,600	400	13,000	17,600	-4,600
III	2,700	2,600	100	21,400	28,500	-7,100
IV	2,200	1,100	1,100	23,700	22,200	1,500
TOTAL	8,900	6,700	2,200	70,900	83,900	-13,000

See notes at end of table.

TABLE 2 (concluded)

MIGRATION BY COMPONENT
ALBERTA, 1986 to 1987

Quarter	International			Interprovincial		
	Im- migration	Em- igration	Net	In Migration	Out Migration	Net
<u>1986</u>						
I ^r	2,200	1,440	760	15,040	13,850	1,190
II ^r	2,510	1,340	1,170	15,030	16,120	-1,090
III	2,440	2,240	200	21,940	32,410	-10,470
IV	2,400	1,240	1,160	17,200	26,970	-9,770
TOTAL	9,550	6,260	3,290	69,210	89,350	-20,140
<u>1987</u>						
I	2,360	910	1,450	11,650	14,920	-3,270
II	3,000	1,130	1,870	12,520	18,570	-6,050
III ^r	3,320	1,970	1,350	18,820	27,340	-8,520
IV ^p	3,230	1,200	2,030	20,010	25,560	-5,550
TOTAL	11,910	5,210	6,700	63,000	86,390	-23,390

Notes: Data may not add to totals due to rounding.

r: revised

p: preliminary

TABLE 3

POPULATION EXCHANGE WITH OTHER PROVINCES
ALBERTA, 1986 to 1987

Quarter	Migration	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	BC	TERR	TOTAL
1986												
I ^r												
	To Alta.	380	60	470	330	350	3400	920	2380	6320	440	15040
	From Alta.	190	60	370	180	650	4600	760	1820	4970	250	13850
	Net Exchange	190	0	100	150	-300	-1200	160	560	1350	190	1190
II ^r												
	To Alta.	370	60	500	300	460	3150	1030	2690	6070	420	15030
	From Alta.	280	70	560	310	690	5460	1010	1690	5710	330	16120
	Net Exchange	90	-10	-60	-10	-230	-2310	20	1000	360	90	-1090
III												
	To Alta.	460	140	870	600	960	5140	1710	3930	7560	580	21940
	From Alta.	840	120	1020	680	1450	12550	1810	2830	10570	550	32410
	Net Exchange	-380	20	-150	-80	-490	-7410	-100	1100	-3010	30	-10470
IV												
	To Alta.	300	40	720	310	650	3310	1400	3030	6820	620	17200
	From Alta.	450	110	840	360	1180	10440	1570	2660	8850	500	26970
	Net Exchange	-150	-70	-120	-50	-530	-7130	-170	370	-2030	120	-9770
TOTAL												
	To Alta.	1510	300	2560	1540	2420	15000	5060	12030	26770	2060	69210
	From Alta.	1760	360	2790	1530	3970	33050	5150	9000	30100	1630	89350
	Net Exchange	-250	-60	-230	10	-1550	-18050	-90	3030	-3330	430	-20140

See notes at end of table.

TABLE 3 (concluded)
POPULATION EXCHANGE WITH OTHER PROVINCES
ALBERTA, 1986 to 1987

Quarter	Migration	NFLD	PEI	NS	NB	QUE	ONT	MAN	SASK	BC	TERR	TOTAL
1987												
I												
	To Alta.	300	20	360	200	250	2830	980	2070	4320	310	11650
	From Alta.	150	30	380	180	600	5580	850	1540	5220	400	14920
	Net Exchange	150	-10	-20	20	-350	-2750	130	530	-900	-90	-3270
II												
	To Alta.	340	110	260	250	420	2710	1060	2470	4600	300	12520
	From Alta.	280	90	500	310	680	6290	1080	1950	6960	440	18570
	Net Exchange	60	20	-240	-60	-260	-3580	-20	520	-2360	-140	-6050
III												
	To Alta.	310	160	630	480	930	4500	1790	3570	5860	600	18820
	From Alta.	390	140	950	610	1090	9160	1710	2150	10610	540	27340
	Net Exchange	-80	20	-320	-130	-160	-4660	80	1420	-4750	60	-8520
IVP												
	To Alta.	300	70	710	510	850	5020	1580	3810	6440	730	20010
	From Alta.	440	80	810	430	790	7720	1560	2440	10720	570	25560
	Net Exchange	-140	-10	-100	80	60	-2700	20	1370	-4280	160	-5550
TOTAL												
	To Alta.	1250	360	1960	1440	2450	15060	5410	11920	21220	1940	63000
	From Alta.	1260	340	2640	1530	3160	23750	5200	8080	33510	1950	86390
	Net Exchange	-10	20	-680	-90	-710	-13690	210	3840	-12290	-10	-23390

Notes: Data may not add to totals due to rounding.
Estimates are based on family allowance transfer statistics, Health and Welfare Canada.
r: revised
p: preliminary

TABLE 4
FINAL INTERCENSAL ESTIMATES
NATURAL INCREASE BY COMPONENT
ALBERTA, 1981 to 1985

Quarter	Births	Deaths	Natural Increase
<u>1981</u>			
I	10,200	3,100	7,100
II ^r	10,900	3,100	7,800
III ^r	11,200	3,200	8,000
IV ^r	10,400	3,500	6,900
TOTAL	42,700	12,900	29,800
<u>1982^r</u>			
I	11,000	3,300	7,700
II	11,600	3,200	8,400
III	11,800	3,100	8,700
IV	10,900	3,500	7,400
TOTAL	45,300	13,100	32,200
<u>1983^r</u>			
I	11,300	3,300	8,000
II	11,800	3,000	8,800
III	11,900	3,200	8,700
IV	10,800	3,200	7,600
TOTAL	45,800	12,700	33,100
<u>1984^r</u>			
I	10,900	3,200	7,700
II	11,400	3,200	8,200
III	11,400	3,200	8,200
IV	10,500	3,300	7,200
TOTAL	44,200	12,900	31,300
<u>1985^r</u>			
I	10,700	3,300	7,400
II	11,400	3,300	8,100
III	11,400	3,200	8,200
IV	10,500	3,500	7,000
TOTAL	44,000	13,300	30,700

See notes at end of table.

TABLE 4 (concluded)

NATURAL INCREASE BY COMPONENT
ALBERTA, 1986 to 1987

Quarter	Births	Deaths	Natural Increase
<u>1986</u>			
I ^r	10,660	3,490	7,170
II ^r	11,760	3,400	8,360
III	11,040	3,280	7,760
IV	10,210	3,470	6,740
TOTAL	43,670	13,640	30,030
 <u>1987</u>			
I	10,310	3,290	7,020
II	11,240	3,380	7,860
III ^r	10,660	3,300	7,360
IV ^p	10,950	3,400	7,550
 TOTAL	 43,160	 13,370	 29,790

Notes: Data may not add to totals due to rounding.

r: revised

p: preliminary

TABLE 5

FINAL INTERCENSAL ESTIMATES
POPULATION GROWTH BY CENSUS YEAR, BY COMPONENT
ALBERTA, 1981 TO 1986

	1981-82	1982-83	1983-84	1984-85	1985-86
POPULATION 1981 CENSUS (JUNE 1) 2,237,300					
COMPONENTS OF GROWTH					
Migration					
Interprovincial					
In-migration	98,000	57,900	39,900	64,500	74,600
Out-migration	64,800	72,900	75,300	89,800	81,400
Net migration	33,300	-15,100	-35,400	-25,200	-6,700
International					
Immigration	20,600	14,500	10,600	9,500	9,400
Emigration	7,300	7,900	7,800	5,400	6,600
Net migration	13,200	6,600	2,800	4,100	2,800
Total net migration	46,500	-8,500	-32,600	-21,100	-3,900
Births	44,000	45,600	45,100	44,200	44,300
Deaths	13,200	13,000	12,700	13,000	13,600
Natural Increase	30,800	32,700	32,400	31,200	30,700
ANNUAL GROWTH	77,200	24,100	-200	10,100	26,800
POPULATION (JUNE 1)*	2,314,500	2,338,700	2,338,500	2,348,500	2,375,300

* Reference date for population is June 1 of the subsequent year.

TABLE 5 (concluded)

POPULATION GROWTH BY CENSUS YEAR, BY COMPONENT
ALBERTA, 1986 TO 1987

POPULATION 1986 CENSUS (June 3)		2,375,300
COMPONENTS OF GROWTH		
Migration		
Interprovincial		
In-migration	63,290	
Out-migration	<u>92,200</u>	
Net migration	-28,910	
International		
Immigration	10,230	
Emigration	<u>5,770</u>	
Net migration	4,470	
Total Net Migration	-24,440	-24,440
Births	42,820	
Deaths	<u>13,410</u>	
Natural Increase	29,410	<u>29,410</u>
ANNUAL GROWTH		4,970
POPULATION 1987 (June 1)		2,380,200

APPENDIX

METHODOLOGY

Introduction

Since 1977 the Alberta Bureau of Statistics has prepared quarterly population estimates to provide up-to-date information on Alberta's population. These estimates are derived using information from administrative data files obtained from the following government agencies:

- 1) birth and death registrations from Vital Statistics Section, Alberta Community and Occupational Health;
- 2) family allowance transfer counts from Income Security Branch, Health and Welfare Canada;
- 3) immigration statistics from Employment and Immigration Canada;
- 4) migration adjustment factors and population estimates for other provinces from Demography Division, Statistics Canada; and
- 5) health care registration data from Alberta Hospitals and Medical Care.

The final estimates are produced using a component method. A description of the basic methodology and the procedures used in estimating each of the population growth components, as well as the age-sex structure is presented in the following sections.

The Component Method

The component method of estimating quarterly population growth employs the population of a previous quarter as a base, and adds the natural increase plus net migration to derive the population estimates for the following quarter. Natural increase is obtained by subtracting deaths from births. Net migration is

obtained by aggregating net interprovincial (in-migration minus out-migration) and net international migration (immigration minus emigration). These are then combined to derive an estimate of population growth.

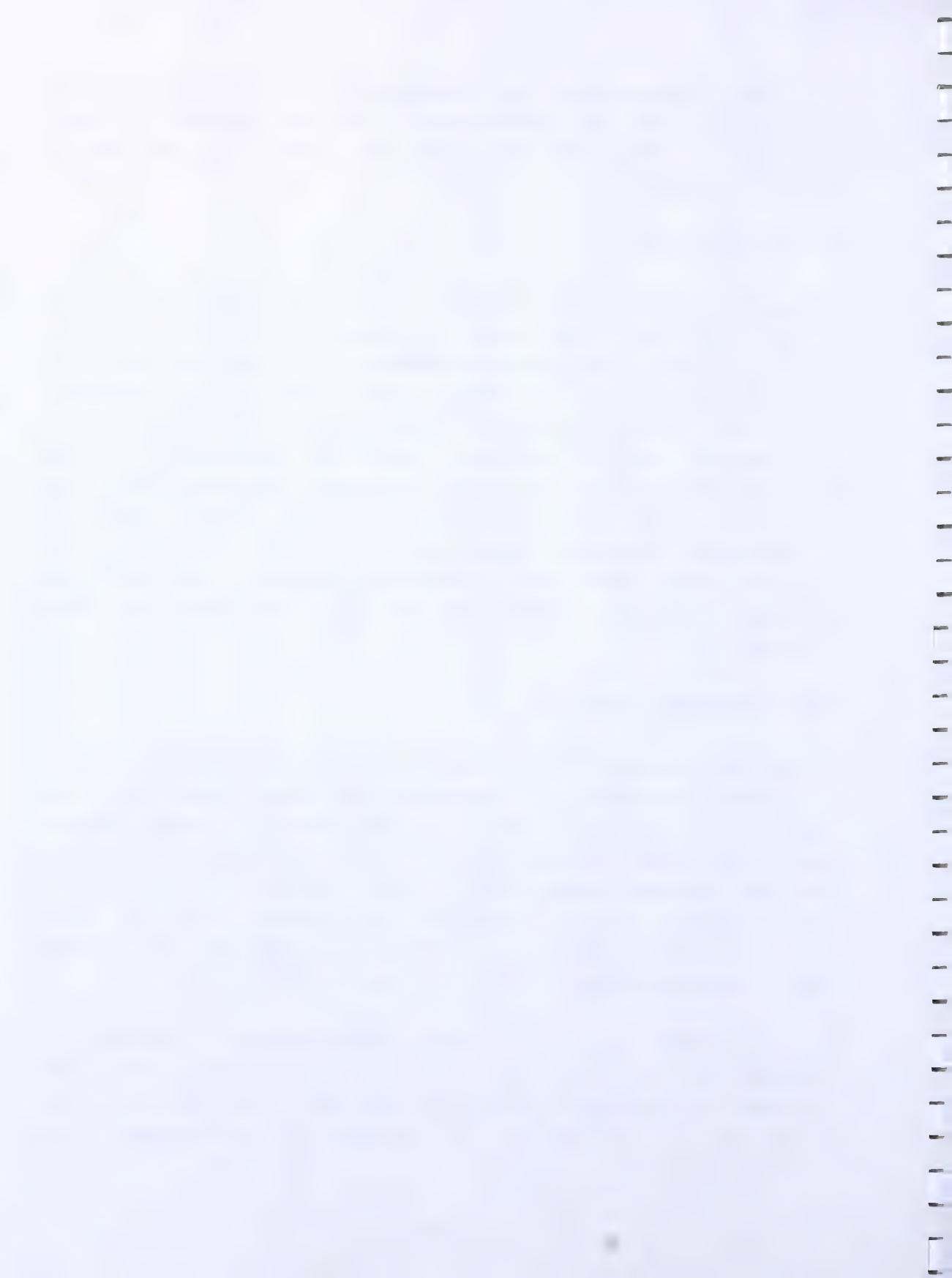
Natural Increase

Natural increase is calculated as the difference between the number of births and the number of deaths that occurred during a specific quarter. Preliminary estimates on births and deaths are produced using birth and death rates. The average quarterly crude birth rate and the crude death rate of the preceding year are applied to the estimated provincial population at the beginning of the period to derive the estimated number of births and deaths. These estimates will be replaced by actual counts in a subsequent quarterly report when final vital statistics data are available from Vital Statistics Section, Community and Occupational Health. These data on births and deaths are about 98% accurate.

Interprovincial Migration

To estimate interprovincial migration, family allowance transfer of accounts are used in conjunction with the latest adjustment factors and child-adult ratios. Since family allowance cheques are mailed to the families monthly, there is incentive for these families to report any change in their address. The time lag in reporting such change is usually very small. Over the years family allowance transfer of accounts data have been an accurate source of the movements of children among the provinces.

The procedures used in estimating interprovincial migration for Alberta are further improved by incorporating additional information from tax records migration data. Net interprovincial migration is derived as the balance of in-migration and out-migration.



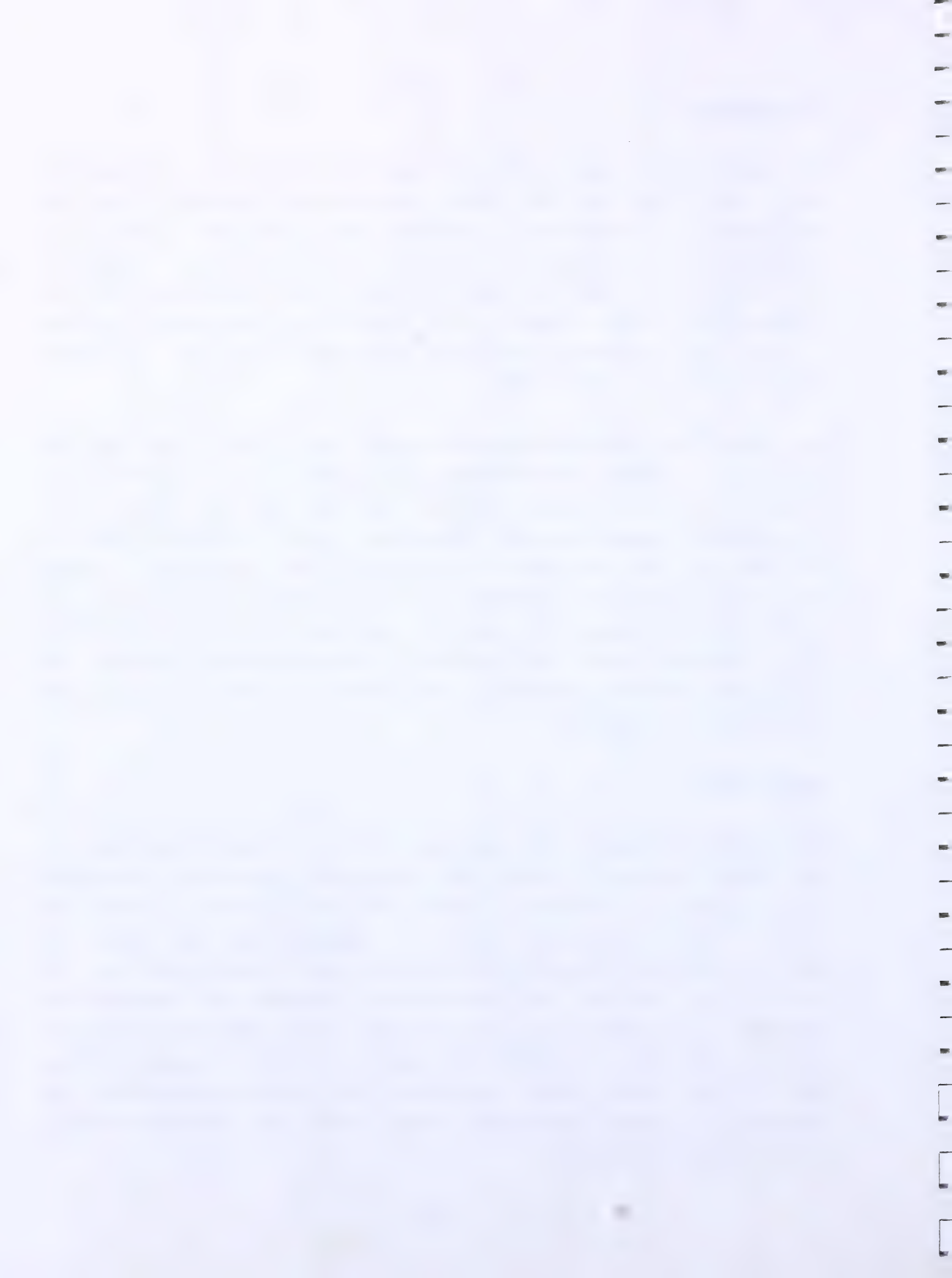
Immigration

The estimate of immigration is first produced on a preliminary basis and then revised when immigration statistics become available. Preliminary estimates are derived taking into consideration the expected number of immigrants to be admitted to Canada in a certain year as announced by Employment and Immigration Canada. Based on the historical immigration records a ratio is derived to estimate Alberta's share of the total immigrants coming to Canada.

The final estimate of immigrants coming to Alberta are based on statistics compiled from immigration papers which each immigrant submits to the Canadian authority at the port of entry. The immigration papers contain information on the intended place of destination and the place of origin of the immigrant. Since this information is available monthly, the quarterly estimate of immigrants intending to come to Alberta can be calculated. These revised figures are obtained by the subsequent quarter and thus the current quarterly publication updates the previous preliminary estimates.

Emigration

Emigration estimates are derived from a method developed by Statistics Canada in which an adjustment factor is developed from emigration information retrieved from personal income tax files. This adjustment factor is applied to the number of family allowance accounts which have been transferred out of the country during the quarter to obtain the emigration estimate. An adult-child ratio based on the 1986 Census counts is then applied to estimate the number of adult emigrants. The sum of estimated adult emigrants and child emigrants, as indicated by family allowance data, equals to the total number of estimated emigrants.



Age-Sex Structure

Age and sex distributions for the January 1 and June 1 estimated population are derived by applying the proportionate age and sex distributions as recorded in the Alberta Health Care Insurance Plan (AHCIP) Master Registration File. Although the health care records are subject to certain limitations such as reporting error, time lags and administrative changes, the age and sex distributions of registrants have proven to accurately reflect the most current age-sex structure of the Alberta population.

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